

Remarks

It has come to the attention of applicant's attorney that the changes proposed in the amendment filed August 16, 2007, were improperly formatted in that the proposed additions did not have the required underlining. This reply, which is supplemental to the reply filed August 16, 2007, seeks to correct that formatting error. Though styled as a supplemental amendment, it assumes that the previously proposed changes have not been made and therefore re-presents them, properly formatted but substantively unchanged (as are the remarks below). Since this supplemental reply seeks merely to correct an informality, it is properly entered under 37 CFR 1.111(a)(2)(E).

Unless otherwise indicated either explicitly or by the context, page and paragraph references are to the Office communication of May 16, 2007.

Changes Made

The specification has been amended to move the listing of references currently in paragraph 0002 to a new appendix (Appendix B), while the existing appendix has been relabeled as Appendix A. The specification has also been amended to provide appropriate cross-references to listed references that are not otherwise specifically referenced.

The specification has been amended on page 6 to eliminate the reference to pure software implementations and to refer instead only to hardware and combined hardware-and-software implementations. It will be understood, however, that certain claims are still directed to the referenced program storage devices, even though a fully operable combination may require other elements such as a processor.

Claim 1 has been amended (1) to recite in the preamble that the transport binding is "dynamically" selected (§ 0010); (2) to replace each reference to a "service" with a reference to a "Web service" (§ 0004); (3) to replace each reference to a "service binding" with a reference to a "transport binding" (§ 0010); and (4) to characterize the selection process (as it is now called) as "using said first transport binding".

Claim 1 has also been amended to replace each instance of “negotiate” or a related form with a corresponding form of “select”, since in certain scenarios (such as recited in claim 8) the transport binding is selected unilaterally rather than through a negotiation process.

Claim 1 has been further amended to replace the term “handling”, as it relates to the Web service invocation, with “conducting subsequent communications between said client and said Web service provider relating to”.

The remaining claims have been amended correspondingly.

Claims 5 and 14 have also been amended to eliminate the repetition of “in which” in the first lines, as requested by the Examiner.

Objections to Specification

The Examiner has objected to the specification because the background of the invention “need[s] to discuss the relevance of the references rather than just an incorporation of references” (page 2, ¶ 1). Applicant has moved the listing to a separate section (Appendix B) and has supplied cross-references to listed items that previously were not specifically referenced. Accordingly, since the relevance of each listed reference is now specifically noted, this ground for objection is believed to be overcome.

Claim Objections

The Examiner has objected to claims 5 and 14 on account of their repetition of the phrase “of which” (page 4, ¶ 2). As noted above, this has been corrected.

Claim Rejections—35 U.S.C. § 101

Claims 1-20 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter (page 5, ¶ 3).

As a first basis for this rejection, the Examiner points to the statement in paragraph 0016, on page 6 of the application as originally filed, which states that the invention “may be implemented in hardware, software, or some combination of the two”. As noted above, this paragraph has been amended to eliminate the reference to pure software implementations and to refer instead only to hardware and combined hardware-and-software implementations.¹ Accordingly, this basis for rejection is believed to be overcome.

As a second basis for this rejection, the Examiner contends that the claims “lack tangible output”. Presumably, this is directed to the “handling” step or element of applicant’s main claims. As noted above, these claims been amended to replace the term “handling”, as it relates to the Web service invocation, with “conducting subsequent communications between said client and said Web service provider relating to”. With this amendment, the claims recite a concrete consequence of the previously recited selection step or element—namely, the handling of communications using a certain transport binding—and thus clearly have the “tangible output” sought by the Examiner.

Claim Rejections—35 U.S.C. §§ 102-103

Claims 1-20 also stand rejected under 35 U.S.C. §§ 102-103. More particularly, the Examiner asserts that the claims are either anticipated by Ahvonen et al., U.S. Patent Application Publication 2004/0116117 (“Ahvonen”) or unpatentable over Ahvonen in combination with other cited art. Since both the anticipation rejection and the obviousness rejections are based upon the asserted teachings of the primary reference, Ahvonen, it is that reference that will be discussed below.

¹ It will be understood, however, that certain claims are still directed to the referenced program storage devices, even though a fully operable combination may require other elements such as a processor.

The pending claims are directed to method, apparatus or program storage device, as the case may be, for invoking a Web service in a service-oriented architecture in which a client invokes the Web service from a Web service provider using a dynamically selected transport binding. In accordance with the invention, a transport binding for a Web service invocation from the Web service provider is first selected in a selection process using a first transport binding. Subsequent communications between the client and the Web service provider relating to the Web service invocation are conducted using the transport binding selected in the selection process using the first transport binding.

Ahvonon is directed to an “enhanced” quality-of-service (QOS) control, more particularly, a method and system for providing “services” to user equipment. These services, however, are such things as “IP multimedia services” and “mobile content services” (Fig. 4) rather than Web services as claimed by applicant.² Also, Ahvonon’s “services” are not “invoked” in the manner that Web services are. At just this technical background level, therefore, the distinction is fairly clear.

Furthermore, Ahvonon contains no teaching regarding a transport binding. The Examiner contends that communication between certain items in Fig. 6 of the reference “implies that there is a transport binding to send [the] initial message” (page 6, ¶ 5). However, any such teaching is entirely implicit since such bindings are not the subject of Ahvonon.³ More importantly, for the services described by Ahvonon, such bindings don’t change. A distinguishing characteristic of Web services is that multiple choices for a transport binding exist and that a choice can be made as part of the initiation of service invocation. In Ahvonon’s environment, on the other hand, such selection problem simply doesn’t exist.

² While the Ahvonon system possibly uses Web services as part of its setup, the negotiated QOS services do not concern Web services traffic, but rather multimedia data.

³ Ahvonon refers several times to “binding information” in the sense of “authentication token and flow IDs” (e.g., ¶ 0012), but such “binding information” is not a transport binding in the sense claimed by applicant. Nor is there any intimation of a two-phase procedure in which a first binding is used to select a second binding used for subsequent communications.

Ahvonon does base service delivery on QOS considerations such as those referenced in applicant's specification. However, Ahvonon's QOS relates to the multimedia data stream, not Web services, and certainly not Web service transport bindings of the type claimed by applicant.

In sum, in the language of applicant's claims, Ahvonon does not teach Web services or transport bindings for such Web services as claimed by applicant. A fortiori, Ahvonon does not teach using a first transport binding for a selection process, then using a transport binding selected in the selection process for subsequent communications between a client and a Web service provider as claimed by applicant.

Claims 7 and 16 are further believed to distinguish patentably over the art cited by virtue of their recitation that a transport binding is negotiated between each pair of adjacent nodes along the communication path between the client and the server. The Examiner point to "SOAP Version 1.2 Part 0: Primer" for its alleged teachings of both intermediary nodes and transport binding selection. However, nothing in these two concepts considered separately would teach negotiating a transport binding between each pair of adjacent nodes as claimed by applicant.

Conclusion

Entry of this supplemental reply and reconsideration of the application as so amended are respectfully requested. It is hoped that upon such consideration, the Examiner will hold all claims allowable and pass the case to issue at an early date. Such action is earnestly solicited.

Respectfully submitted,

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